

REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 118-235 are in the case.

I. CLAIM OBJECTIONS

Claim 142 has been objected to as drawn to a method of preparing the compound of Formula III but is dependent on withdrawn claim 135. In response, claim 142 has been amended so as to be independent and to recite the method steps. Withdrawal of this objection is respectfully requested.

Claim 144 is objected to as being dependent on claim 141. In response, claim 144 has been amended so as to be dependent on claim 142. Withdrawal of this claim objection is now respectfully requested.

II. ALLOWABLE SUBJECT MATTER

It is noted, with appreciation, that claim 148 is indicated to be allowable.

III. THE ANTICIPATION REJECTION

Claims 146 and 158 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by Bonnett, 1976, Nature, 262, 326-328. That rejection is respectfully traversed.

The Action states that compound "a" disclosed in Figure 2 (page 327) anticipates compounds of formula III (claim 146) and VI (claim 158). In response, claims 146 and 158 are novel in view of Bonnett because compound "a" of Bonnett has a pyrrole group in the R₄ position. Compound "a" does not therefore fall within the scope of compounds

of formula III or formula VI because a pyrrole group is a heteroaryl group and the definition of R_4 only provides for aryl groups. The definition of "aryl" which is provided in the specification at page 24, line 34 to page 25, line 11 is "aryl groups having 6 through 10 carbon atoms and includes, for example, phenyl, naphthyl, idenyl." Thus, the aryl groups of R_4 do not encompass heteroaryl groups.

Bonnett clearly does not anticipate claims 146 and 158. Withdrawal of the anticipation rejection is respectfully requested.

IV. THE 35 U.S.C. §112, FIRST PARAGRAPH, REJECTION

Claims 142, 144-146 and 158 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. That rejection is respectfully traversed.

In response, and without conceding to the merit of the rejection, the claims have been amended by limiting the definition of the variables R_1 - R_5 and Z on the basis of the specific examples disclosed in the present application and the furanones disclosed in the PCT applications incorporated by reference on page 27. The exemplified compounds in the present application provide support for R_1 and R_2 being independently selected from H, halogen and alkyl; R_3 and R_4 being independently selected from H, halogen, hydroxy and alkyl; R_5 being selected from H, alkyl, aryl and arylalkyl; and Z being selected from H, halogen, hydroxy, OC(O)alkyl and OC(O)alkylC(O)OH. No new matter is entered.

It is also believed that compounds of formula III or VI wherein R_2 is aryl are taught by the disclosure of 5-hydroxy-5-methyl-4-phenyl-1,5-dihydropyrrol-2-one (first

compound in the table on page 50) which is a compound of formula II. As described in the present application, compounds of formula III and subsequently compounds of formula VI may be synthesized from compounds of formula II. Further support for compounds of formula III and formula VI wherein R_2 is aryl is provided by compounds 4f (page 13), 5e (page 16) and 6g (page 18) of PCT/AU01/00781 (incorporated by reference). A copies of pages 13, 16 and 18 of PCT/AU01/00781 are attached.

Using the same reasoning for R_2 being aryl, it is clear that compounds of formula III or VI in which R_3 and R_4 are independently selected from aryl are supported by compound 70 (page 44 of PCT/AU01/01621 and page 39 of PCT/AU02/00797) which is a compound of formula I. Copies of pages 44 and 39 are attached. As described by the present application, compounds of formula II (and therefore compounds of formula III and subsequently compounds of formula VI) may be synthesized from compounds of formula I.

The definition of "alkoxy" for the variables R_1 - R_4 has been limited to " C_1 - C_{10} alkoxy" in line with the definition at page 24. Compounds of formula III or VI in the specification in which R_1 , R_2 , R_3 and R_4 are alkoxy are supported by the disclosure of compound 85 of PCT/AU01/01621 (page 45) (copy attached) which is a compound of formula I.

The phrases "straight chain or branched chain, hydrophilic or fluorophilic", "forms part of an amino acid" and "is a nucleoside, an oligomer, a polymer, a dendrimer, a substrate or a surface" have been deleted without prejudice. The "substituted" option is supported on the basis of the limited definitions provided at pages 23-25.

Withdrawal of the outstanding 35 U.S.C. §112, first paragraph, rejection is now believed to be in order. Such action is respectfully requested.

IV. THE 35 U.S.C. 112, SECOND PARAGRAPH, REJECTION

Claims 142 and 144-146 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite for the reasons indicated on page 9 of the Action. In response, claim 142 has been amended so as to be directed to a method comprising the steps of (a) providing a compound of Formula II; and (b) dehydration of the compound of Formula II to provide the compound of Formula III. Support for the proposed amendments may be found in the specification as originally filed at pages 5 and 6. No new matter is entered.

Withdrawal of the outstanding 35 U.S.C. §112, second paragraph, rejection is now believed to be in order. Such action is respectfully requested.

V. INFORMATION DISCLOSURE STATEMENT

An Information Disclosure Statement and requisite IDS fee are being submitted simultaneously with the present response. The references will be submitted as soon as received by the undersigned. Entry and favorable consideration of the Information Disclosure Statement is respectfully requested.

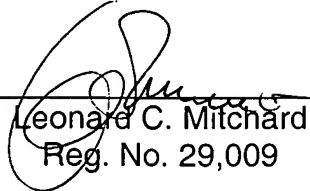
KUMAR
Appl. No. 10/525,231
January 17, 2007

Favorable action is awaited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

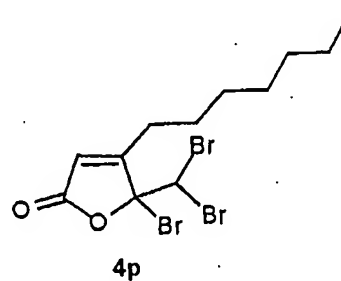
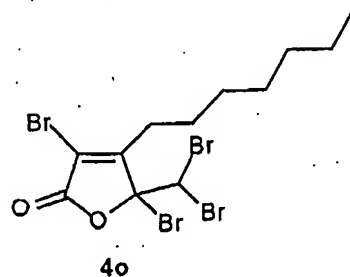
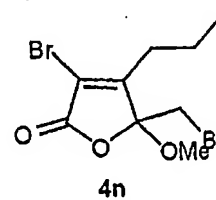
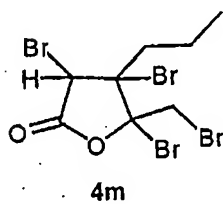
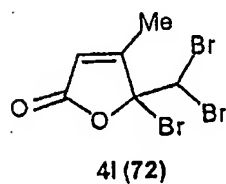
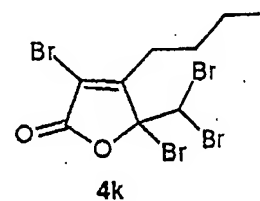
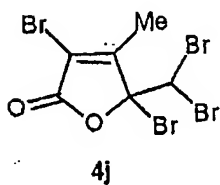
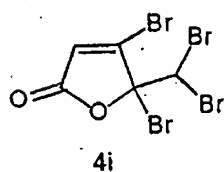
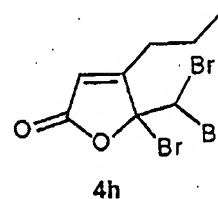
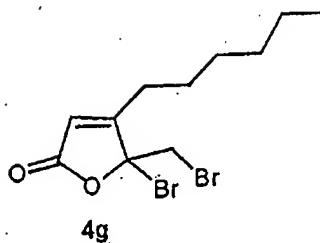
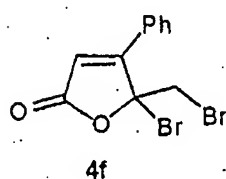
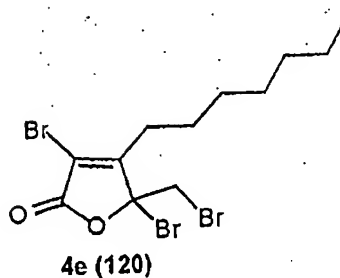
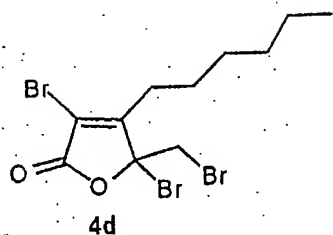
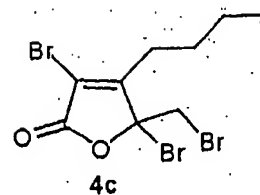
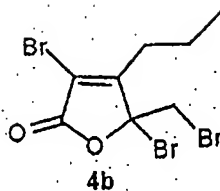
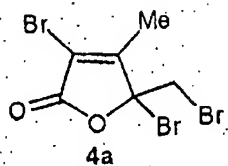
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Leonard C. Mitchard
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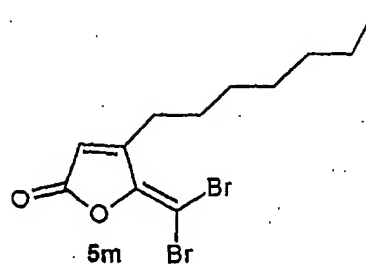
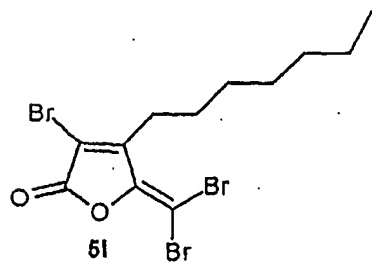
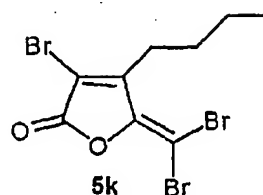
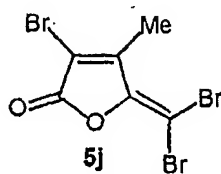
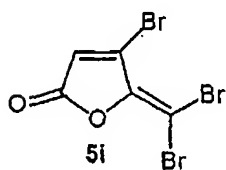
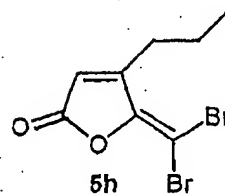
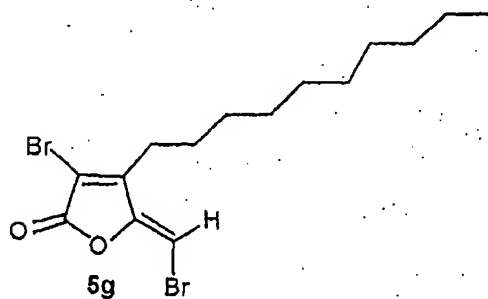
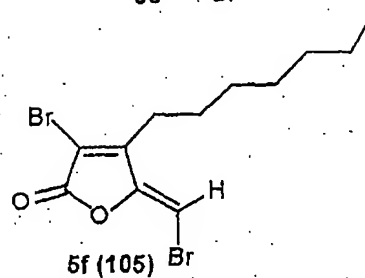
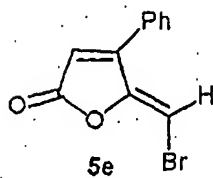
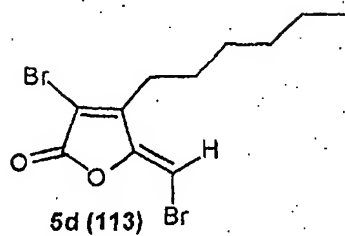
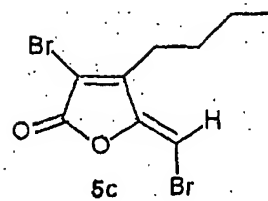
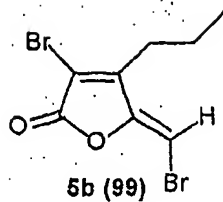
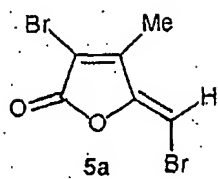
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Attachments: Copies of pages 13, 16 and 18 of PCT/AU01/00781; pages 44 and 45 of
PCT/AU01/01621; page 39 of PCT/AU02/00797

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R₄ is a halogen (X = F, Cl, Br or I);
R₁ is hydrogen; and
R₃ is a hydrogen or halogen;

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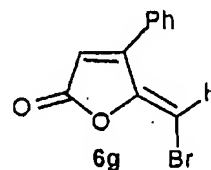
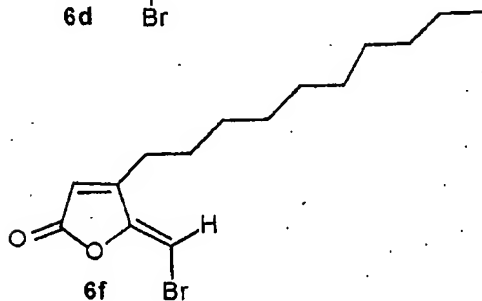
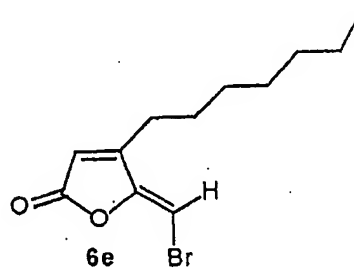
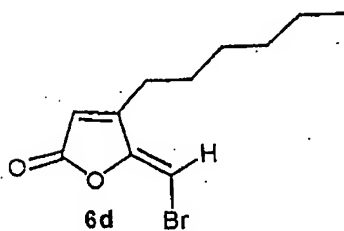
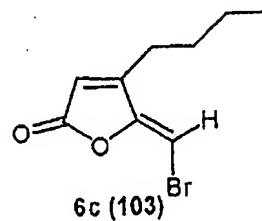
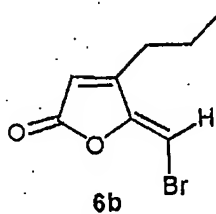
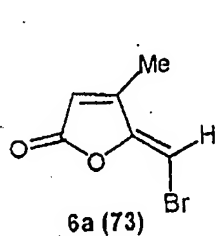
The sulfuric acid type reagent may be, for example, concentrated sulfuric acid, oleum, chlorosulfonic acid, or a mixture of sulfuric acid with one or more other like agents.

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Examples of compounds of formula I that may be used in the method of the seventh aspect include 3-alkyl-2,3-dibromo-4-oxopentanoic acid, 2,3,5-tribromo-4-oxopentanoic acid, 2,3-dibromo-4-oxopentanoic acid, 2,5-dibromo-4-oxopentanoic acid, 2,3,5,5-tetrabromo-4-oxopentanoic acid, 2,3,3-tribromo-4-oxopentanoic acid and 2,3,3,5-tetrabromo-4-oxopentanoic acid.

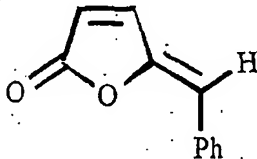
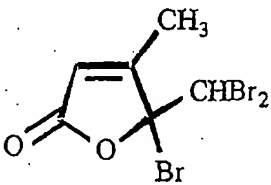
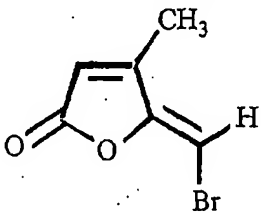
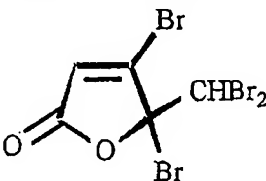
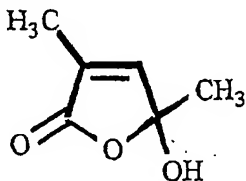
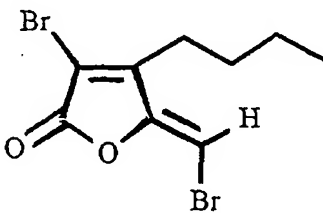
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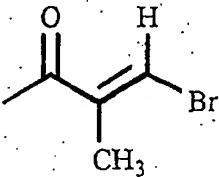
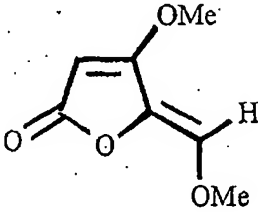
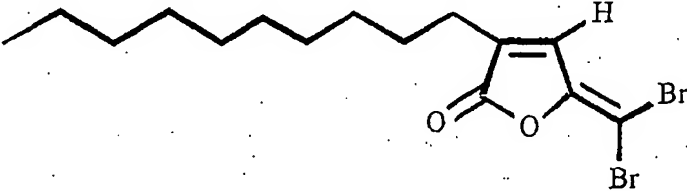
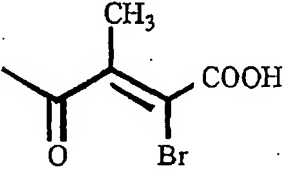
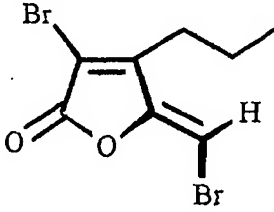
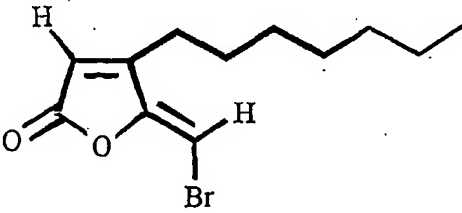
Representative examples of furanones (6a-g) that can be synthesised by this procedure are listed below.



P. 20/6/02

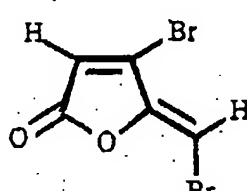
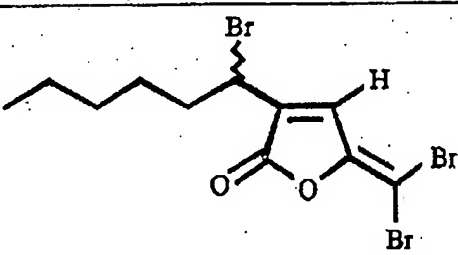
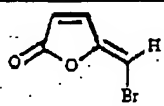
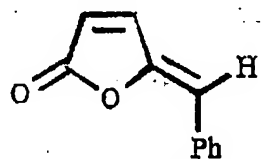
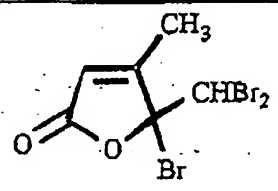
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70	 <chem>O=C1C=CC(=O)OC1C=Cc2ccccc2</chem>
72	 <chem>CC1=C(Br)C(=O)OC1C(=O)Br</chem>
73	 <chem>CC1=C(C=Cc2ccccc2)C(=O)OC1=O</chem>
74	 <chem>CC1=C(Br)C(=O)OC1C(=O)Br</chem>
75	 <chem>CC1=C(C)C(=O)OC1C(=O)O</chem>
78	 <chem>O=C1C=CC(=O)OC1C(=O)Br</chem>

80	 <chem>CC(=O)C(Br)C</chem>
85	 <chem>COC1C(=O)OC(C1)COC</chem>
88	 <chem>BrC1C(=O)OC(C1)C2=CCCCCCCCC2</chem>
91	 <chem>CC(=O)C(Br)C(C)C(=O)O</chem>
99	 <chem>BrC1C(=O)OC(C1)C2=CC(Br)CC2</chem>
102	 <chem>BrC1C(=O)OC(C1)C2=CCCCCCCCC2</chem>

Published 27/12/02

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Compound No.	Structure
30	
34	
56	
70	
72	
74	